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TYPES OF ESTIMATES 12

There are several different classes of estimates. They all involve varying degrees of accuracy and due diligence.

- **Order of magnitude:** Accurate by +/- 35%. Example: Shouting a quote from the window of your truck as you drive by the site. Humor aside, this kind of estimate leave the largest room for error. It involves only the most basic preparation and knowledge of the project, and many folks do it. In some cases, it's not worth the time investment to do a more detailed estimate- and experienced eye is all you need. But if you are getting into a fixed price contract, this is definitely not the route to go!
- **Preliminary estimates-Budget estimate:** Accurate by +/- 20%. This is probably the most common kind of estimate the average demolition contractor will give. It means spending some time at the site and looking over blueprints before you submit your final bid. Most of the techniques in this guide will help you construct budget estimates.
- **Definitive estimate:** Accurate by +/- 10%. This kind of estimate is often seen on complicated, big-ticket demolition jobs. Because it involves more information gathering, it also involves more time and effort.
- **Detailed estimate:** Accurate by 0-5%. The most detailed, and therefore most accurate, of all estimates, it's also the most time intensive. You cannot do a detailed estimate without serious structural inspections, rebar configuration analysis, as-built drawings, and comprehensive risk/safety/environment issues evaluation. Both detailed and definitive estimates are exhaustive, task oriented process-

es that require major due diligence. They are commonly requested in petrochemical/offshore oil and gas projects.

For practical purposes, we will simply ignore the Order of magnitude estimate. The Detailed estimate is very similar to the Definitive estimate, differing only in thoroughness. Therefore, we will go more in depth for Preliminary and Definitive estimates only.

Preliminary estimates

Preliminary estimates are often used at the very outset of the project in order to determine if the project even stands a chance of being financially viable. You may on occasion be asked to give a preliminary estimate based on very general characteristics of the project such as size and materials. You should be aware (and make the owner/project manager aware) that preliminary estimates are only considered accurate within a range of +/- 20%.

When someone asks for a preliminary estimate, they are looking for more than an educated guess but they probably don't want the nitty gritty details either. This is the one case when submitting a rough estimate is acceptable; it's understood you won't be held to that exact figure as part of a contract.

There's two ways to calculate preliminary estimates: the square-foot method, and the cubic-foot method.

Square-foot estimate: Choose this method when you are estimating for a project similar to one you have done before. That means the structures are in the same or similar condition as last time.

Step 1: Divide the total price you charged for a similar project you did before by the total number of square feet of the structure. This is the cost per square-foot for the previous, similar project.

Step 2: Now multiply this figure by the total number of square feet of the new project in question. This is a quick and dirty estimate of what it'll take to demolish that building.



REMEMBER: All buildings are not equal! Be careful getting square foot numbers, and always develop your own. Remember to compare apples to apples, and keep in mind that this kind of estimate is just a starting point.

EXAMPLE



You demolished a one-story house with lead paint contamination for \$10,000 a couple months ago. The building covered 1,000 sq-ft. Today, someone called you to get a preliminary estimate on a one-story house that covers approximately 1,500 sq-ft. You asked about the conditions and found that it also has lead paint, along with several other features that the other project had.

You do the math:

$\$10,000 / 1,000 \text{ sq-ft} = \10 per sq-ft . You charged \$10/sq-ft. for the other project.

Now translate that to the new project:

$\$10 \text{ per sq-ft} \times 1,500 \text{ sq-ft} = \$15,000$. That's a good ballpark estimate of what you might want to charge for this project.

Cubic-foot estimates:

The cubic-foot method is calculated the same way. You should choose this method over the square-foot method when estimating for large industrial buildings that have high roofs and take up a lot of volume.

Preliminary estimates are exactly that, preliminary. In order to make a serious bid, you will have to buckle down and make a serious estimate. Submitting final bids based on the above two methods, per sq-ft or cubic-ft is NOT recommended. According to one estimator, "Pricing work on a square foot area will likely damage your business. The square foot pricing should be used as a baseline to compare and analyze projects after you have completed several like projects with an accurate cost history."

TIP: The owner may call two to three people for a preliminary estimate in addition to you. So be careful when you give them the quote—aim too high and you won't be invited back to bid, aim too low and they'll be disappointed with the more accurate figure. And when giving your estimate, always qualify the number by explaining you haven't had time to conduct a proper site inspection and list all the unexpected things that may make the job more difficult and subsequently more expensive.



Definitive Bid Estimate Preparation

Developing a definitive bid requires the estimator to perform a "take-off". Typically done using a spreadsheet program like Microsoft Excel, the take-off involves:

1. Dividing the project into cost centers- tasks/groups that generate a specific set of costs and require a particular set of resources.
2. For each cost center, calculating physical items (the amount of material to remove, the method of removal), and nonphysical items (bonds, insurance).
3. Using historical data on costs and productivity to determine how much resources you will need (labor and equipment/materials) for each cost center
4. Figuring the price for each cost center and then adding all of the cost centers to get your total cost of the project.

Table 12.1: Example of a partial take-off

(Note: The below figures are examples only and should not be considered representative of actual costs.)

Cost Center	Quantity	Unit	Labor cost		Materials & Equipment		Total Cost
			\$/unit	total	\$/unit	total	
Demolition							
- Ceiling	3000	Sq.-ft.	\$0.60	\$1800.00	\$0.10	\$300.00	2100.00
- Floor	3000	Sq.-ft.	\$0.50	\$1500.00	\$0.10	\$300.00	1800.00
- Interior wall	5000	Sq.-ft.	\$1.50	\$7500.00	\$0.50	\$2500.00	10000.00
- Exterior wall	2500	Sq.-ft.	\$3.00	\$7500.00	\$2.50	\$6250.00	13750.00
- Toilets	2	Piece(s)	\$150.00	\$300.00	\$50.00	\$100.00	400.00
- Sinks	2	Piece(s)	\$150.00	\$300.00	\$50.00	\$100.00	400.00
- Door	8	Piece(s)	\$75.00	\$600.00	\$25.00	\$200.00	800.00
- Window	4	Piece(s)	\$150.00	\$600.00	\$50.00	\$200.00	800.00
		Total- Demolition		\$20100.00		\$9950.00	\$30050.00
Removal							
- Brick/conc.	375	Cubic-yd.	\$2.50	\$937.50	\$12.50	\$4687.50	\$5625.00
- Other debris	50	Cubic-yd.	\$2.50	\$125.00	\$12.50	\$625.00	\$750.00
		Total- Removal		\$1062.50		\$5312.50	\$6375.00

Each line-item in a take-off is not meant to be perfect. You will inevitably underestimate the cost on some and overestimate on others. However, on the whole, you will arrive at an estimate that is accurate and realistic. Performing a take-off also allows you to quickly see where the costs are being incurred. If you do not feel comfortable with the price of the bid, the take-off allows you to quickly identify where the costs are stemming from. Finally, use professional judgment (experience) and engineering intuition to adjust the figures to reflect special or unique factors peculiar to the particular job.

REMEMBER: When performing take-offs, keep these in mind:



- Study plans and specs
- Apply judgment factors
- Break project into cost centers
- Assign unit cost to each cost center
- Compare prices to past projects
- Perform percentage calculation for each cost center to check for accuracy